University of Agronomic Sciences and Veterinary Medicine of Bucharest
Faculty of Horticulture

International Student Symposium *"Hortus Academicus"*
December 11, 2020, Bucharest, Romania

Crossandra, a new species in the current flower assortment

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Introduction

- The genus Crossandra comprises about 40-50 species, tropical plants, with only a few cultivated species, such as:

Crossandra undulaefolia
Crossandra guineensis
Crossandra sebaculis
Crossandra nilotica
Crossandra pungens
Crossandra flava
Crossandra fortuna

- **Origin:** tropical and subtropical regions, such as South Asia, South America, South Africa and Madagascar. In India it is grown commercially in Karnataka, Tamil Nadu and A.P.

Crossandra undulaefolia

Crossandra flava

Crossandra fortuna

- **Species :** *Crossandra infundibuliformis*
- **Phylum:** Magnoliophyta
  Class : Magnoliopsida
  The order: Lamiales
  Familiy : Acanthaceae
  Kind : Crossandra
- **Origin** : India
- **Etymology:** In Greek "krossos" - fringe

"Orange Marmalade" variety,
U.S.Botanical Garden, June 2019.

Crossandra

- decorative woody flowering plant with flowers
- cultivated as an indoor plant, it can grow in room conditions at a height of 30-50 cm.
- In May, green ears appear from which the orange bracts sprout, which open one after the other from the bottom up.
- Improperly said flowers are variously colored bracts, red to yellow.
- Flowering: April-May
- Temperature: 13-24 ° C
- Humidity: Low
- Brightness: Half shade
- Substrate culture: acidic pH
- Propagation: by cuttings, spring or summer, or by seeds, spring.
- The obtained plants are pinched to branch.
- They bloom fairly quickly, a few months after rooting.
- Flowering in young plants is more abundant, which is why the plant must be "renewed" every 3-4 years.

Justification of the theme

We chose this species for study, being considered a relatively new species in the current floricultural assortment, cultivated in our country as an indoor plant with some "unknown" practices in terms of vegetative propagation and its behavior on different substrates. culture, literature specifying the species' preferences for an acidic pH.

Material și metoda

The experience was organized and carried out at the HORTINVEST greenhouses within USAMV Bucharest between 7.07.2020 - 9.11.2020.

Shoot-top cuttings were used as biological material.

In order to prune, shoots were harvested from a group of 4-year-old mother plants. The cuttings were sized at 4-6 cm and on average 3 leaves.

The result was a total number of 102 cuttings that were distributed for rooting in 3 different substrates, constituting the 3 experimental variants, namely:

V1 - turf

V2 - perlite

V3 - peat + perlite in a ratio of 1: 1

Also, for each experimental variant in order to stimulate rooting, different rooting stimulants were used, constituting the experimental subvariants in number of 5, namely:

a - Untreated cuttings

b - Butts treated with Incit

c - Seedlings treated with Revital

d - Seedlings treated with Radistim

e - Seedlings treated with Clonex

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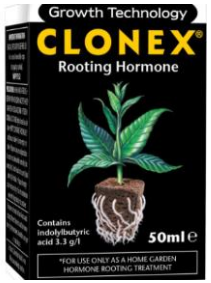

The seedlings were planted in plastic trays distributing the 3 peat, perlite, peat and perlite culture substrates and the seedlings treated with 4 rooting stimulants in the form of gel, Clonex, to the top seedlings of peat, perlite and peat and perlite, and in powder form for top seedlings of peat, perlite and peat and perlite.

V1
(Turf)

V2
(Perlite)

V3
(Turf and perlit)

During the experiment and at the time of rooting the cuttings, a series of observations and measurements were made regarding:

- Percentage of rooting
- Seedling height (cm)
- The number of leaves
- Number of main roots
- Length of main roots (cm)
- Number of secondary roots
- Length of secondary roots (cm)
- Percentage of viability

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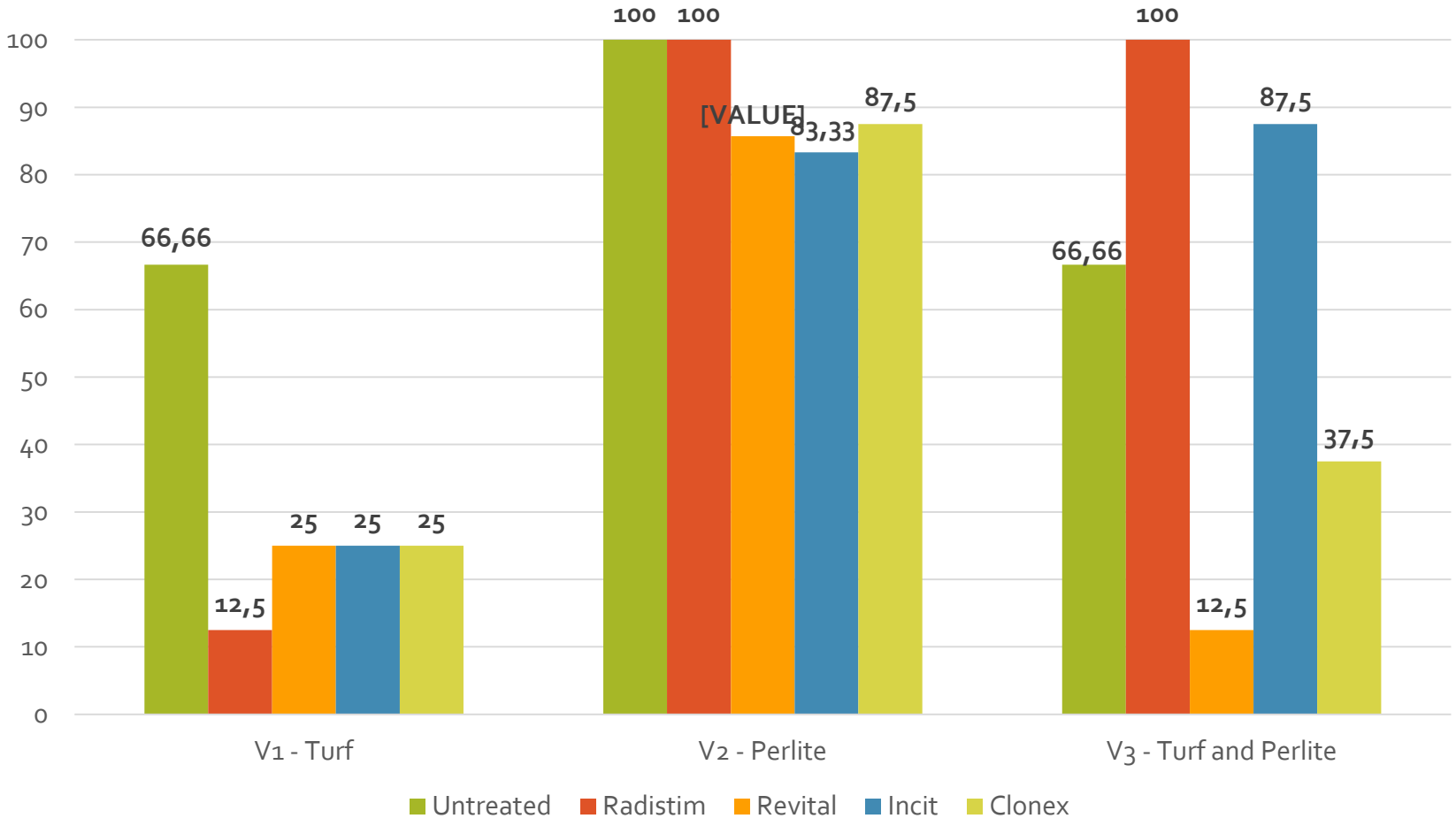
Distribution of cuttings by experimental variants and subvariant (7.07.2020)

The experimental variant	Experimental subvariant	Number of cuttings made	Number of rooted cuttings	Number of cuttings gag
V 1 – (Turf)	a (untreated) b (Radistim) c (Revital) d (Incit) e (Clonex)	3 8 8 8 8	2 1 2 2 2	1 2 0 1 0
V2 – (Perlite)	a (untreated) b (Radistim) c (Revital) d (Incit) e (Clonex)	3 8 7 6 8	4 8 6 5 7	0 0 0 0 0
V3 – (Turf and perlite)	a (untreated) b (Radistim) c (Revital) d (Incit) e (Clonex)	3 8 8 8 8	2 8 1 7 3	1 1 0 1 0
Total:		**102**	61	7

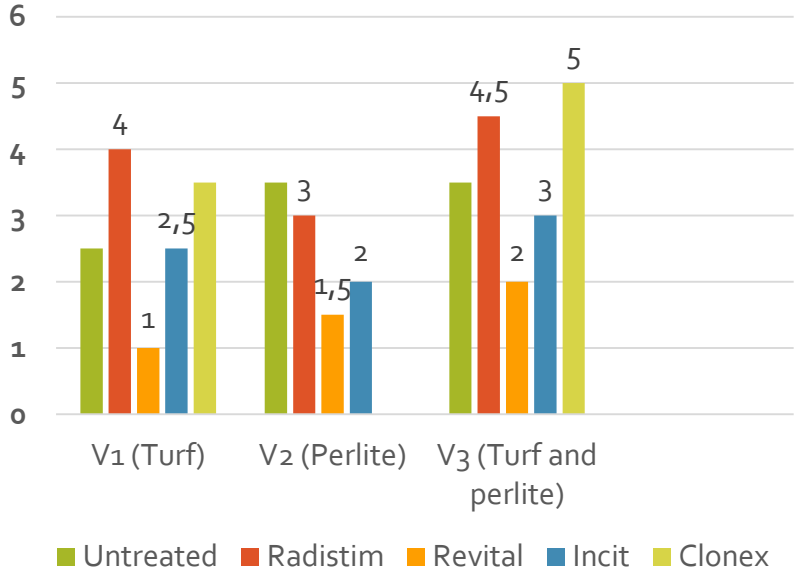
Graph regarding the percentage of rooting of cuttings according to the experimental variant (%)



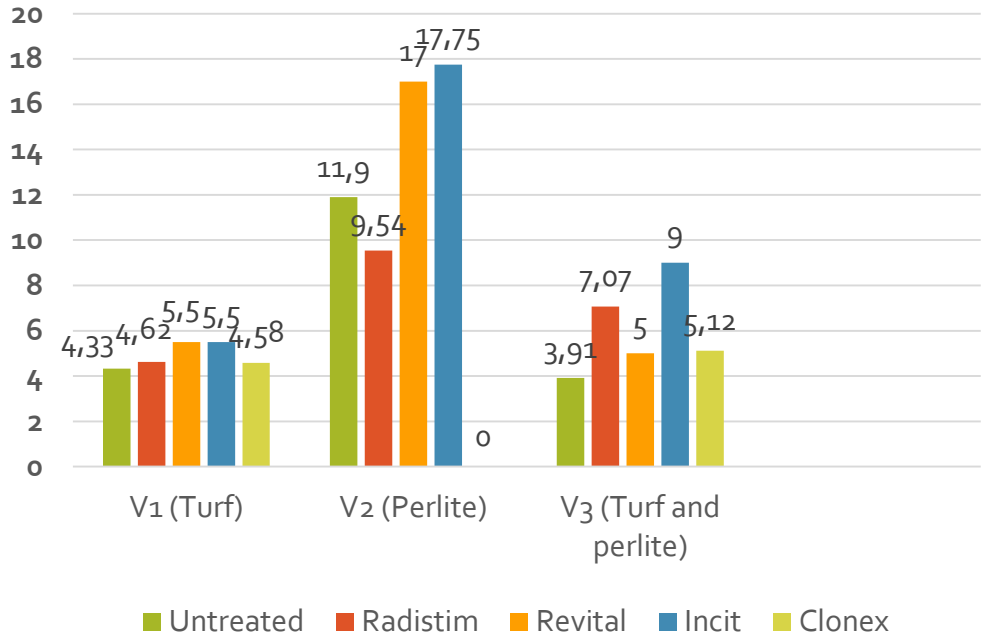
Stadiul de crestere si dezvoltare al butasilor la data de 9.11.2020.

Experimental variant	Experimental subvariant	The height of the cutting (cm)	Number of leaves	Number of main roots	The length of the main roots (cm)	Number of secondary roots	The length of the secondary roots
V1 (Turf)	a Untreated	5.85	6	2.5	4.33	4	0.75
	b Radistim	6.2	9	4	4.62	4	1.33
	c Revital	6	10.5	1	5.5	6	3.53
	d Incit	4.6	8	2.5	5.5	11	1.20
	e Clonex	5.35	8.5	3.5	4.58	8	3.16
V2 – (Perlite)	a Untreated	6	9	3.5	11.9	7.5	1.42
	b Radistim	4.5	8	3	9.54	5	1.5
	c Revital	6.5	5	1.5	17	9	1.8
	d Incit	5.5	7	2	17.75	10.5	1.31
V3 –(Turf and perlite)	a Untreated	5	6	3.5	3.91	2.5	1.05
	b Radistim	4	7.5	4.5	7.07	4	1.12
	c Revital	5.5	7	2	5	1	0.5
	d Incit	6	10	3	9	4	3.87
	e Clonex	5.25	8.5	5	5.12	4	3.1

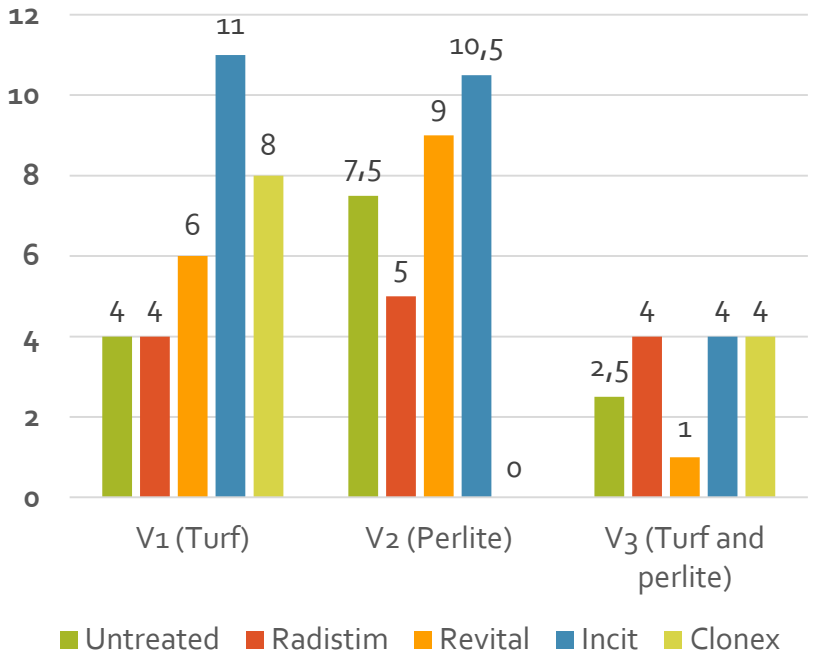
Number of main roots



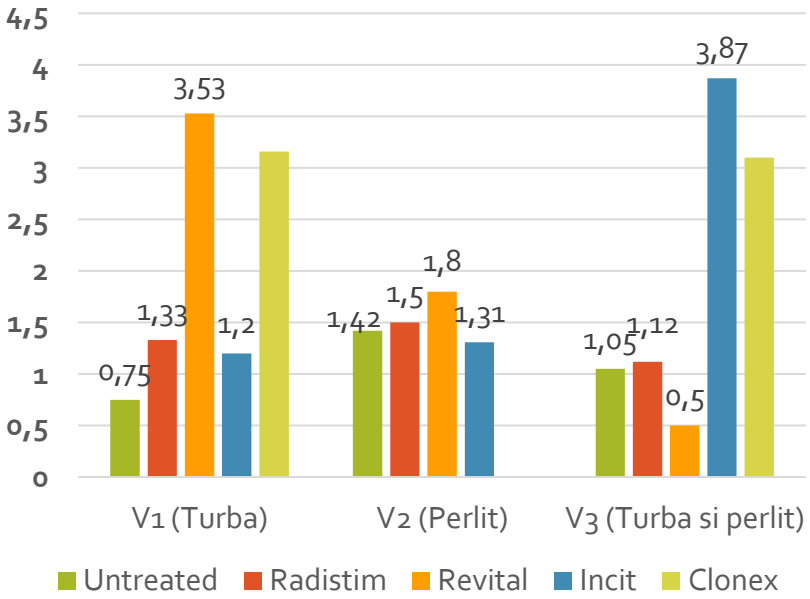
The length of the main roots (cm)

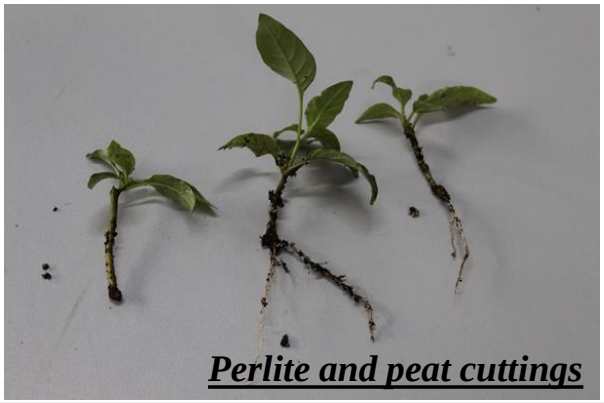


Number of seconday roots



The length of the secondary roots (cm)





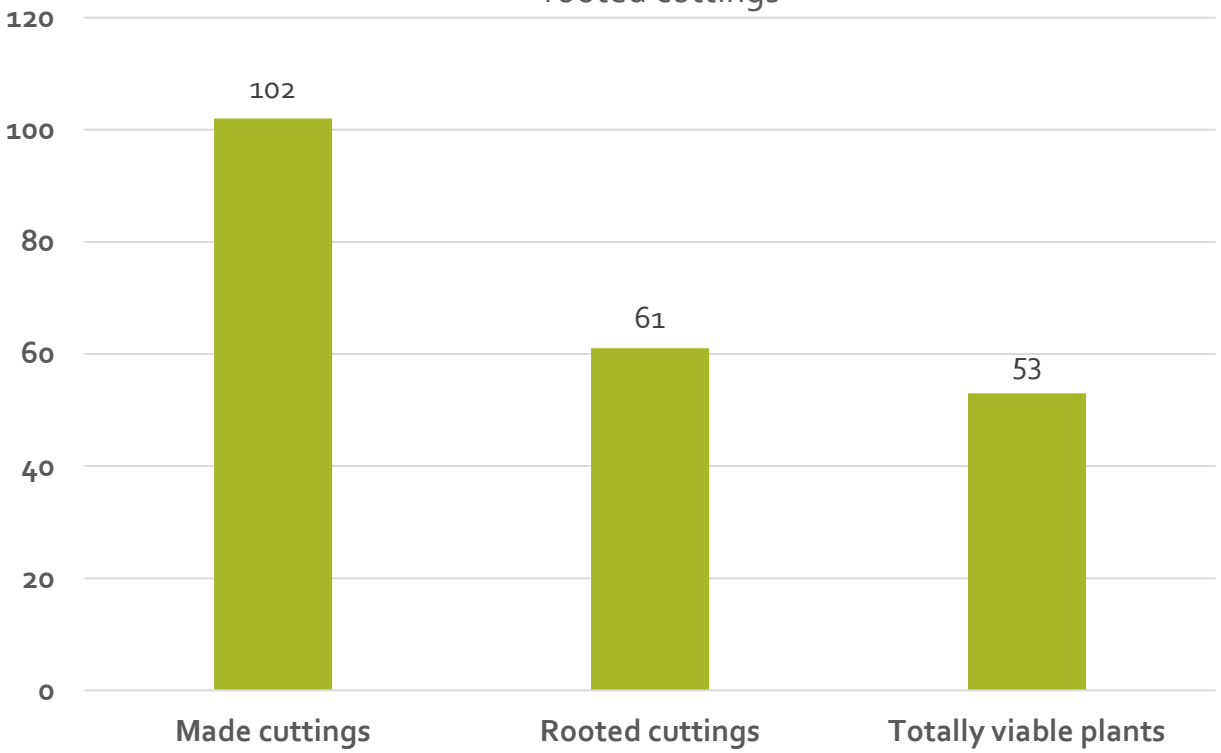
The appearance of the rooted cuttings on 9.11.2020, 125 days after planting

V1
Turf

V2
Perlite

V3
Turf and perlite

Graph on the number of viable plants 3 weeks after planting the rooted cuttings



Conclusions and recommendations

- The best results regarding the rooting of the top shoots of shoots in the Crossandra species were obtained in the experimental variant V2, represented by the perlite culture substrate in all experimental subvariants, with over 83.33%.
- 100% rooted untreated cuttings from the experimental variants V1- Perlite and cuttings treated with Radistim having as rooting substrate Perlite (V2) and peat and perlite (V3), and the weakest rooted in peat.
- In terms of rooting stimulants, the cuttings were 100% rooted in Radistim, and the weakest results were recorded in the cuttings stimulated with Revital.
- Regarding the maximum number of main roots formed, the maximum values were recorded regardless of the rooting stimulus, in the experimental variant V2 represented by the mixture of peat and perlite (V3), with a maximum average of 5 roots formed, and in regarding their length, the experimental variant that recorded the maximum average length was V2, represented by perlite, with a maximum length of 17.75 cm.
- Regarding the number of secondary roots formed, it reached a maximum of 11 in the experimental variant V1 represented by Peat, closely followed by V2 - perlite with an average of 10.5, and the length of the secondary roots varies between 0.5 cm and 3.87 cm. within the same variant V3 represented by perlite peat.
- Regarding the viability of the plants after pruning, it was 51%.

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Vă mulțumesc pentru atenție!